UNCLASSIFIED

Information Science and Technology Seminar Speaker Series

Jasper van de Gronde
Johann Bernoulli Institute for Mathematics and Computer Science

Data Analysis and Filtering through Connected Mathmatical Morphology

Wednesday, December 9, 2015

3:00 - 4:00 PM

TA-3, Bldg. 1690, Room 102 (CNLS Conference Room)

Abstract: Mathematical morphology provides a versatile toolbox for analysing and processing images. While traditionally these tools mostly apply to binary and greyscale images, recent years have seen a surge in methods for applying morphology to non-scalar images. Of particular interest are so-called "connected" and "hyperconnected" approaches: rather than locally filtering an image, these rely on decomposing the image into certain types of components. Such methods allow for a lot of flexibility and interactivity in filtering images, as well as interesting analyses (both locally and globally). I will provide a general overview of the field of mathematical morphology, focusing on connected approaches. Subsequently, I will discuss modern approaches for applying morphological methods to non-scalar data.

Biography: Jasper van de Gronde is a postdoc at the Scientific Visualization and Computer Graphics group of the Johann Bernoulli Institute for Mathematics and Computer Science in Groningen. His Ph.D. thesis was on the topic of non-scalar mathematical morphology. Apart from mathematical morphology, his interests include certain kinds of linear filters, compressed sensing, and deep learning, typically with a particular emphasis on large/high-dimensional and/or non-scalar data.

For more information contact the technical host Curt Canada, cvc@lanl.gov, 665-7453.

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